

Appln. No.: 10/631,824  
Amendment dated February 28, 2008  
Reply to Office Action of August 30, 2007

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**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended): An integrated circuit, comprising:

a reconfigurable interconnect portion;

a data processing portion coupled to the reconfigurable interconnect portion, the data processing portion configured to provide a bit pattern to the reconfigurable interconnect portion to load a configuration of the reconfigurable interconnect portion; and

a storage unit coupled to the data processing portion, the storage unit including a configuration bit look-up table,

wherein the data processing portion is configured to extract a set of bits for a single output from the configuration bit look-up table.

Claim 2 (currently amended): The integrated circuit of claim 1, wherein the integrated circuit includes a second reconfigurable interconnect portion, and the configuration bit look-up table is configured to allow the data processing portion to extract a first set of configuration bits representing the bit pattern and to extract a second set of configuration bits representing a second bit pattern to load a second configuration of the second reconfigurable interconnect portion, wherein the second set is a subset of the first set.

Claim 3 (original): The integrated circuit of claim 1, wherein the reconfigurable interconnect portion comprises a switching matrix.

Claim 4 (currently amended): The integrated circuit of claim 1, wherein reconfigurable interconnect portion comprises a ~~multiplexer~~ multiplexer.

Claim 5 (original): The integrated circuit of claim 3, wherein the switching matrix includes a control signal input configured to select between two inputs to connect to an output.

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Claim 6 (original): The integrated circuit of claim 1, wherein the reconfigurable interconnect portion comprises a pair of transistors.

Claim 7 (original): The integrated circuit of claim 1, wherein the reconfigurable interconnect portion comprises a plurality of memory elements, each memory element connected to at least one switch of the reconfigurable interconnect portion.

Claim 8 (original): The integrated circuit of claim 1, wherein the bit pattern is derived from the configuration bit look-up table.

Claim 9 (original): The integrated circuit of claim 1, wherein the configuration bit look-up table comprises a plurality of rows of configuration bits.

Claim 10 (original): The integrated circuit of claim 9, wherein the storage unit is coupled to the data processing portion by a plurality of address lines for accessing the rows of configuration bits stored within the storage unit.

Claim 11 (original): The integrated circuit of claim 10, wherein the storage unit further comprises programming instructions configured for accessing the configuration bit look-up table, wherein the programming instructions are further configured for extracting a subset of configuration bits from the configuration bit look-up table.

Claim 12 (original): The integrated circuit of claim 1, wherein the data processing portion is configured to map a first input of the reconfigurable interconnect portion to a first output of the reconfigurable interconnect portion in response to a first command.

Claim 13 (original): The integrated circuit of claim 12, wherein the data processing portion is configured to map a second input of the reconfigurable interconnect portion to a second output of the reconfigurable interconnect portion in response to the first command.

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Claim 14 (original): The integrated circuit of claim 12, wherein the data processing portion is configured to map a second input of the reconfigurable interconnect portion to a second output of the reconfigurable interconnect portion in response to a second command.

Claim 15 (original): The integrated circuit of claim 12, further comprising a second reconfigurable interconnect portion, and wherein the data processing portion is configured to map a first input of the second reconfigurable interconnect portion to a first output of the second reconfigurable interconnect portion in response to a second command.

Claims 16-34 (canceled)

Claim 35 (currently amended): An integrated circuit comprising a reconfigurable interconnect portion and a storage unit coupled to the reconfigurable interconnect portion, wherein the storage unit stores a look-up table for use in configuring the reconfigurable interconnect portion,

wherein the data processing portion extracts a set of bits for a single output from the look-up table.

Claim 36 (currently amended): An integrated circuit, comprising:

a reconfigurable interconnect portion;

a data processing portion coupled to the reconfigurable interconnect portion, the data processing portion configured to provide a bit pattern to the reconfigurable interconnect portion to load a configuration of the reconfigurable interconnect portion; and

a storage unit coupled to the data processing portion, the storage unit including a look-up table,

wherein the look-up table is configured to allow the data processing portion to extract a first set of bits representing the bit pattern and to extract a second set of bits representing a second bit pattern to load a second configuration of a second reconfigurable interconnect portion,

wherein the second set is a subset of the first set.

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wherein the extraction of the second set of bits is from a single output from the look-up table.

Claim 37 (currently amended): A method of configuring a reconfigurable interconnect portion, comprising steps of:

determining configuration bits to configure the reconfigurable interconnect portion;  
accessing a configuration bit look-up table, the configuration bit look-up table including a matrix of zeros and ones, with the ones along one diagonal;  
extracting a set of configuration bits representing ~~the~~ a bit pattern from the configuration bit look-up table; and  
providing the set of configuration bits representing the ~~requested~~ bit pattern.

Claim 38 (currently amended): A method of configuring a reconfigurable interconnect portion of a circuit, comprising steps of:

receiving a set of configuration bits representing ~~the~~ a requested bit pattern; and  
configuring a reconfigurable interconnect portion based on the received set of configuration bits,  
wherein the configuration bits are derived from a configuration bit look-up table,  
wherein the configuration bit look-up table includes a matrix of zeros and ones, with the ones along one diagonal.

Claim 39 (new): An integrated circuit, comprising:

a reconfigurable interconnect portion;  
a data processing portion coupled to the reconfigurable interconnect portion, the data processing portion configured to provide a bit pattern to the reconfigurable interconnect portion to load a configuration of the reconfigurable interconnect portion; and  
a storage unit coupled to the data processing portion, the storage unit including a configuration bit look-up table,

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wherein the configuration bit look-up table includes a matrix of zeros and ones, with the ones along one diagonal.